

UNITED STATES PATENT APPLICATION

of

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for

**A TRIM FOR SEALING JOINTS
AGAINST WATER PENETRATION**

CROSS REFERENCE TO RELATED APPLICATIONS

This application is a continuation-in-part of United States patent application number 09/246,061 filed 06/12/2001, titled "A Trim for Sealing Joints against Water Penetration", of Tara Chand Singhal. This application claims priority on the application 09/246,061 and is incorporated herein by reference.

FIELD OF THE INVENTION

The present invention is directed to a method and apparatus for a trim for sealing joints against water penetration in applications such as in bathroom between a wall and a bath-tub.

BACKGROUND

Sealing of wall and bath-tub joints has always been a problem. Traditional method is to fill the space at the joint with grout and then apply silicon caulk over
5 the joint. This method of sealing the joint always gives trouble after some time.

The caulk deteriorates, becomes yellow and moldy and develops hairline cracks from being exposed to the water. The bathtub flexes up and down a little from the weight of a person causing hairline cracks in the grout. Combination of
10 these factors makes the seal of the joint ineffective. This allows water to penetrate and cause damage to the underlying structure. There is also the factor of aesthetics as the joint always looks dirty and unsightly from the constant re-caulking that it requires and is hard to keep clean.

15 Patent 5,287,667, titled "Water Proof Tile for Tub and Tile Corners" disclosed a solution by use of a tile trim that is the last tile on the tile wall. This trim is part of the tile wall and needs to be installed with the rest of the tiles.

Therefore, it is an object of the present invention to have a trim that can be
20 installed on top of the existing wall surface in a bath-tub and effectively seal the joint between the bath-tub and the wall against water penetration.

SUMMARY

This invention discloses a trim that seals the joint against both the vertical water flow and the horizontal water flow penetration. The trim has an elongated
5 body with a front-side that is smooth and finished and a back-side that is rough or unfinished. The front-side has a curvature to channel the flow of water away from the wall into the tub and away from the joint. The back-side of the trim has at least two recesses, which hold an adhesive-sealant.

10 A method of installation of the trim requires, first laying a bead of the adhesive-sealant, at the joint and applying the same adhesive-sealant to the back-side, and then attaching the trim in place against the vertical surface.

BRIEF DESCRIPTION OF THE DRAWINGS

These and other features, aspects and advantages of the present invention will become better understood with regard to the following description,
5 appended claims and accompanying drawings where:

Figure 1 shows a version of the perspective view of the trim;

Figure 2A shows a version of the side view of the trim;

Figure 2B shows a version of the top views of a 45 degree bevel trim; and

10 Figure 3 shows a version of the method of installation.

DESCRIPTION

A trim for sealing joints between a horizontal surface and a vertical surface against water penetration is described. The preferred embodiment is in sealing wall and bath-tub/shower-pan joint. The trim is preferably, made of ceramic. The glazed side of a ceramic trim is impervious to water. The trim may alternatively may also be made of plastic, as plastic is also impervious to water.

Figure 1 illustrates a perspective view (10) of the trim and Figure 2A illustrates a cross section along X-X' view (10A). The trim is an elongated body (10) with a front-side (12) and a back-side (13). The front-side (12) has a top-front-side (14) and a bottom-front-side (16). The top-front-side (14) is made up of a convex curvature (14A), and the bottom-front-side (16) is made up of a concave curvature (16A), wherein the convex and the concave curvatures are joined together to form a continuous S-shape curvature.

The back-side (13) has a top-back-side (18) and a bottom-back-side (20). The top-back-side (18) has a recess (18A), for holding an adhesive-sealant, which will adhere and seal the trim to the vertical surface and protect the joint against the vertical water penetration. The bottom-back-side (20) has a recess (20A), for holding the adhesive-sealant, which will seal and adhere the trim to the tub/wall joint and protect the joint from horizontal water flow penetration.

As shown in Figure 2A, the top-front-side (14) joins the top-back-side (18) at an acute angle (24A). Also the bottom-front-side (16) joins the bottom-back-side (20) at an acute angle (24B). The acute angles (24A and 24B) could be

substantially 60 degrees. The angles could also be substantially 45 degrees. The angles may be some other suitable acute angle values.

5 The purpose of the acute angle (24A) and the convex curvature (14A) is to channel the vertical flow of water away from the wall, and the purpose of the acute angle (24B) and the concave curvature (16A) is to channel the flow of water into the tub and away from the tub-tile joint.

10 The trim body (10) has left flat edge (not shown) and a right flat edges (22) that abut against and are joined with other trim bodies with the same adhesive-sealant. As shown in the simplified illustration, Figure 2B, the left edge (26A) or the right edge (26B) of the body (10) is beveled at 45 degrees. This 45 degree bevel enables the trim to function as a last piece in an installation. The same 45-degree bevel enables one right bevel edge and one left bevel edge to function as
15 a right angle corner (26C).

With reference to Figure 1, the trim body (10) with a 45 degree bevel on either the left edge or the right edge (22) of the front-side (12) provides a trim that can be used both as a last trim on an installation as well as to make right angle
20 corners between two trims as illustrated in Figure 2B.

The adhesive-sealant may be silicon caulk commonly available in hardware stores that has both sealant, adhesive and flexibility properties.

25 Figure 3 shows a method of installation. A method of sealing joint using this trim (10) between a vertical surface and a horizontal surface has the following steps.

(a) Lay a bead of adhesive-sealant at the vertical/horizontal surface joint (31).

(b) Apply adhesive-sealant to the backside of the trim. (32)

(c) Position the back-side of the trim against the vertical surface (33) applying horizontal force (33a) and downward force (33b).

The method further includes placing additional trims side by side and sealing the edges of the trim with the same adhesive-sealant. The method also includes positioning 45 degree bevel trims side by side to make a 90 degree angle between the trims. The method also includes positioning a 45 degree bevel trim to make it the last trim.

The trim (10) of this invention seals joints between a horizontal surface and a vertical surface against water penetration. The front-side has a curvature having a convex part and a concave part that together forming a continuous curvature to channel the flow of water away from the joint. The back-side has at least two recesses for an adhesive-sealant application, where the first recess is used for adhering to the vertical wall and the second is used adhering to the joint. The trim can be made of ceramic or plastic.

Although the present invention has been described in considerable detail with respect to certain preferred versions thereof, other versions are possible. Therefore, the spirit and scope of the appended claims should not be limited to the descriptions of the preferred versions contained herein.